



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/534,238

12/02/2005

Evgeny Evgenyevich Fesenko

U 015763-7

2731

140

7590

11/23/2009

LADAS & PARRY LLP
26 WEST 61ST STREET
NEW YORK, NY 10023

EXAMINER

MONSHIPOURI, MARYAM

ART UNIT

PAPER NUMBER

1656

NOTIFICATION DATE

DELIVERY MODE

11/23/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

nyuspatactions@ladas.com

Office Action Summary	Application No. 10/534,238	Applicant(s) FESENKO ET AL.	
	Examiner Maryam Monshipouri	Art Unit 1656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 37-46,50,51 and 55-61 is/are pending in the application.
- 4a) Of the above claim(s) 45,46,50 and 51 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37-44 and 55-61 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claims 1-36, 47-49, 52-54 have been canceled. Claims 37-44 and newly presented claims 55-61 are still at issue and are present for examination. Claims 45-46 and 50-51 are withdrawn as drawn to non-elected invention.

Response to non-compliant letter of 2/3/09 is acknowledged and entered.

Applicants' arguments filed on 9/23/08, have been fully considered and are deemed to be persuasive to overcome some of the rejections previously applied. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 42-44 and 58, 60-61 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear as to what is the difference between "an antioxidant activity of SEQ ID NO:2" versus "an antioxidant activity of SEQ ID NO:4" in claims 42 (and its dependent claims 43-44) and claim 58 and it is unknown as to what the structural requirements of a recombinant human peroxiredoxin VI with "SEQ ID NO:2 antioxidant activity" are (see claims 42, 60-61). Appropriate clarification is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 37-44 and 55-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kang et al. "Kang" (J.B.C., 273(11), 6303-6311, 1998, cited previously). Kang teaches cloning and recombinant expression method (see page 6304) of a full-length human peroxiredoxin (TPx), which inherently is 224 amino acids in length. In Figure 1 and in the abstract Kang further teaches that the conserved cysteine residues 170 and specially Cys 47 of said peroxiredoxin are in charge of its peroxidase (or antioxidation) activity. In page 6303 column 2, Kang teaches that Cys47-SH rapidly reacts with Cys 170-SH of the other subunit to form an intermolecular disulfide. Kang further teaches that TPx proteins that lack either Cys47 or Cys 170 do not exhibit Trx coupled peroxidase activity. Kang does not teach any isolated DNA encoding an active fragment of human peroxiredoxin of 177 amino acids in length having SEQ ID NO:4, methods of expressing said fragment utilizing well known host cells and vectors or its expression product.

At the time the invention was made it would have been obvious to one of ordinary skill in the art to start with the full length TPx encoding DNA sequence of Kang and systematically prepare shorter fragments thereof while preserving the region that encodes Cys 47, Cys 170, or preferably both in order to maintain its peroxidase activity.

Art Unit: 1656

Such fragments will inherently embrace isolated DNA sequences encoding SEQ ID NO:4 of this invention, rendering the invention obvious.

One of ordinary skill in the art is motivated in preparing the isolated DNA sequences that encode shorter antioxidant fragments of human TPx, inherently including those encoding SEQ ID NO:4 of this invention and expressing said isolated DNA sequences because shorter DNA fragments are easier to recombinantly produce than full-length DNA, and their expression products are less antigenic than full-length TPx, when administered to a mammal for their antioxidant (peroxidase) activity, rendering the invention obvious.

Finally, one of ordinary skill in the art has a reasonable expectation of success in preparing and expressing active antioxidant fragments of TPx encoding DNA and recombinantly expressing them to obtain their expression products which inherently include SEQ ID NO:4 of this invention because methods of preparing and expressing DNA fragments are fully established in the prior art.

Applicant is reminded that pharmaceutical compositions comprising TPx fragments of above (see claims 41-44, and 59-61), comprising well known pharmaceutical carriers such as dihydroliopic acid etc. cannot be considered to be a contribution over the prior art cited above.

Double Patenting

Applicant is advised that should claim 37-44 be found allowable, claim 55-61 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both

Art Unit: 1656

cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). It is unclear as to what is the scope difference between claims 37 (and its dependent claims 38-44) and claim 55 (and its dependent claims 56-61) as both claims 37 and 55 encode a sequence of identical amino acid composition.

No claim is allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maryam Monshipouri whose telephone number is (571) 272-0932. The examiner can normally be reached on Tues.-Fri., from 7:00 a.m to 5:30 p.m..

Art Unit: 1656

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (571) 272-0811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Maryam Monshipouri/

Primary Examiner, Art Unit 1656
